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PSS Users and Harley Davidson Riders: the importance of consumer identity in the diffusion of sustainable consumption solutions

Summary

This paper sets out an approach to researching socio-cultural aspects of Product Service Systems (PSS) consumption in consumer markets. PSS are relevant to Industrial Ecology as they may form part of the mix of innovations that move society toward more sustainable material and energy flows.

The paper uses two contrasting case studies drawing on ethnographic analysis, *Harley Davidson* motorcycles and *Zip Car* Car Club, one a case of consumption involving ownership, the other without. The analysis draws on *Consumer Culture Theory* to explicate the socio-cultural, experiential, symbolic and ideological aspects of these case studies, focusing on product ownership.

The paper shows that ownership of Harley Davidson motorcycles enables riders to identify with a brand community and to define themselves. Owners appropriate their motorcycles through customization. In contrast, Zip Car users resist the company's attempts to involve them in a brand community, see use of car sharing as a temporary fix and even fear contamination from shared use of cars.

We conclude that iconic products such as Harley Davidson motorcycles create emotional attachment and can challenge PSS propositions. But we also suggest that somewhat standardized products may present similar difficulties. Knowing more about socio-cultural aspects of PSS may help designers overcome these difficulties.

Key Words

Brand Communities; Culture; Ethnography; Ownership; Product Service System; Sustainable Consumption

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<heading level 1> Introduction

This conceptual paper explores Product-Service System (PSS) consumption using two illustrative and highly contrasting case studies that draw on ethnographic analysis. A PSS aims to achieve lower environmental impacts by helping to create circular economies in which material is retained to satisfy demand (Tukker 2015; Stahel 2006; Stahel and Giarini 1987). PSS is a system of “products, services, supporting networks and infrastructure designed to be: competitive, satisfy customer needs and have lower environmental impact than traditional business models” (Mont 2002,239). PSS relates closely to the concept of Industrial Ecology, which aims to promote the development of such circular resource flows in functioning ecosystems (Hess 2010). Indeed, given the focus on industrial production (Di Donato et al. 2015), while increases in energy and material flows have been shown to be situated in everyday life (Jalas 2005), insights on PSS consumption may contribute to efforts that help broaden the Industrial Ecology field to encompass consumption studies.

Similar to many environmental concepts, PSS are not without challenges. Despite their potential sustainability benefits, PSS implementation is difficult in consumer markets (Vezzoli et al. 2015). There is insufficient research on PSS consumption from consumer studies perspectives in particular (Rexfelt and Hiort af Ornäs 2009). As a consequence there is a gap in knowledge on consumer acceptance

of PSS (Catulli, 2012; Tukker, 2015). This paper therefore helps to address this gap and contribute to research in the industrial ecology field focusing on consumption.

PSS can be product orientated, use orientated, and result orientated (Cook et al. 2006; Hockerts 1999). Use orientated PSS forms the focus of analysis here as successful examples of this PSS type have recently emerged, particularly in personal mobility. In environmental terms, use orientated PSS could achieve a 'factor 2' resource efficiency (Tukker and Tischner 2006; Cook et al. 2012).

In use orientated PSS, customers purchase the use of a product over a given period of time whilst suppliers retain its ownership (Cook et al. 2006). This can be problematic. Consumers often prefer to buy tangible products because they are uncertain whether a corresponding PSS can satisfy their needs, are concerned about long term liabilities (Rexfelt and Hiort af Ornäs 2009) associated with PSS, poor "on demand" availability (Catulli 2012) and a lack of control (Tukker 2015). Also, in western societies accumulation of material possessions is associated with levels of welfare (Richins 1994; Veblen 1899). Seen in this way, consumption without ownership implied by PSS may be challenging (Schrader 1999). There is an assumption in most PSS literature that consumers can be satisfied with the functional value of a provision, "the perceived utility acquired from an alternative's capacity for functional, utilitarian or physical performance" (Payne and Holt, 2001: :168), of a provision. Baudrillard (1981), however, theorized that the value that consumers want from consumption includes not only functional and exchange value, but also symbolic and semiotic elements – the meanings that possession of a specific product and brand represents.

Research therefore suggests that consumers are less amenable to use orientated PSS (ownerless) consumption because product ownership provides a way to project an image of oneself (Scholl 2008). Little is known about what happens to symbolic meanings when we transfer from ownership to accessing products via a use orientated PSS. This lack of understanding is likely to hinder adoption of PSS in consumer markets. In this paper we therefore begin to address this gap in knowledge by answering the following research question:

How does consumers' need to express their self-identity and social affiliation through their consumption practices shape the large scale implementation of sustainable PSS?

Following Yin (1994) we draw on two historical case studies to complete exploratory research that investigates this research question. One case considers the traditional product ownership based consumption of *Harley Davidson* motorcycles and the other *Zip Car*, which corresponds to the Use Orientated type of PSS, which does not involve ownership of products. These mobility focused case studies enable issues of consumer self-identity and social affiliation to be explored when consumers

- 1) Use a means of transport they ride and own
- 2) Access a use orientated PSS in which drivers purchase the use of a vehicle (owned by suppliers) for a given period of time.

We draw upon consumer culture theory (CCT) to identify and unpack the qualitative aspects revealed in the case studies that influence consumers' views of these two options. CCT has been used here as it emphasizes the role of meanings and

ideologies (i.e. the issues that lie behind the need for ownership) in the shaping of consumer decisions (Arnould and Thompson 2005). Indeed, our contribution highlights the importance of consumer identity in the diffusion of use orientated PSS. Our approach addresses Wallsten's (2015) plea to study Industrial Ecology from social sciences perspectives. It is important to note here that rather than with ownership itself, our research is concerned with exploring consumers' concerns with their conception of ownership or lack of it.

The remainder of this paper is structured as follows: we first explain the theoretical framework and methods used; we then explore theories of consumer behavior and ownership; present our findings, and finally posit conclusions and propose directions for future research.

<heading level 1>Theoretical Approach: Insights from Consumer Culture Theory

In some cases, the PSS proposition to consumers is a difficult one, because "People prefer to buy" (Livette 2006,476), particularly products that are more likely to induce an emotional attachment in their owners (Schrader 1999). Consumers value ownership of products, as they deliver value and project meanings about themselves (Barone et al. 1999; Belk 1988). Thus consumers clearly want more than functionality from consumption.

In most cultures consumers regard possessions as part of themselves, "this is seen as the most basic and powerful fact of consumer behavior" (Belk 1988,139). Ownership is seen as the key culturally universal function of consumption (Wallendorf

and Arnould 1988), and CCT can help unpack the cultural nuances influencing consumer decisions.

From an anthropological perspective, products not only serve a function; their physical consumption is only part of the services provided by products. Material possessions are a social marker (Douglas and Isherwood 1996). Consumption is a ritual activity in which tangible products are often used to classify people and events. Indeed, people are often attributed worth on the basis of their possessions (Douglas and Isherwood 1996). Products therefore structure social relationships and material possessions *define* their owners. Products are attributed value by social processes and by other consumers. Consumers make their own world with these products, and the tangible products themselves have a function of constructing social structure and contribute to build culture with their symbolic meanings, "consumption decisions become the vital source of the culture of the moment" (Douglas and Isherwood 1996,37). People create the object world with the artefacts, "stuff" they surround and identify themselves with (Miller 2010).

In today's consumer society people are concerned with accumulating, possessing and consuming material products (O'Shaughnessy and O'Shaughnessy 2002), for hedonistic reasons and to project an image of status (O'Shaughnessy and O'Shaughnessy 2007), or to conform socially (Wagler 2009). Consumption patterns can be seen as a "marker" of class. Indeed, ownership of certain products often signifies that people belong to certain social classes, i.e. "class-defining goods" (Douglas and Isherwood 1996; Veblen 1899). Product ownership is therefore a signal of social links, of belonging to a specific "tribe" (cf. Cova and Cova 2002) and of adopting specific *roles*

by means of available cultural materials (Castells 2010). This suggests that attempts to introduce PSS that are designed to maximize functionality at the expense of symbolic meanings in consumer markets may be resisted. Another view on the ownership of products, however, following Proudhon (1840), is that ownership for the sake of it, where the products owned are not used, is wasteful. This aspect can make ownership be seen as illegitimate. For example, in personal transportation, owned cars are used for short journeys and then left idle in a parking space for most of the time. People can identify themselves with ideals other than status. For example rather than conform to an increasingly materialistic high standard of living, people may adopt pro-environmental values (Moisander and Pesonen 2002) and decide to “downshift” or simplify their consumption patterns (Craig-Lees and Hill 2002; Shama 1985). Such trends may render consumers more amenable to PSS, although PSS may not necessarily be associated to values such as sharing (Belk 2014b; Belk 2014a).

Consumers associate services as well as products with values such as achievement and status (Groth 1995; Lemmink et al. 1998). Some consumers associate *Ecomodo*ⁱ, a PSS exemplar, with values such as benevolence and universalism (Piscicelli et al. 2015), and a baby equipment PSS with pro-environmental values (Catulli et al. 2013).

Literature focused on PSS and marketing suggests that the viability of PSS in consumer markets may vary depending on the characteristics of the products involved. Littig (2000) suggests that consumers have positive attitudes to rental, private borrowing and collective use depending on product categories, e.g. cars, home appliances and media products. This suggests that some aspects of consumer demand currently met

by products may also be amenable to PSS. Type and characteristics of products might be important in PSS consumption. However, since products may mean different things to different people (Pinch and Bijker 1984), the role of products in the construction of consumer identities is likely to be important too. Below we juxtapose Harley Davidson riders and their practices and the ZipCar use orientated PSS offering, to investigate how meanings are recreated and consumer identities made and re-enforced when such offers are consumed.

<heading level 1> Approach and Method

Our analytical approach is drawn from consumer culture theory (CCT). CCT researchers start from the premise that consumption practices are shaped by consumers' "identity projects", the "co constitutive, co productive ways in which consumers, working with marketer generated materials, forge a coherent if diversified and often fragmented sense of self" (Arnould and Thompson 2005,871). Seen in this way, consumers attribute symbolic meanings to the products they own and the services they use.

In selecting a cultural approach such as CCT, we take note of the critical stance of Shove (2010) on the failure of psychological, individual perspectives to effectively account for consumers' failure to embrace sustainable consumption. Indeed, we hold the view that socio-cultural approaches including CCT hold promise to enhance insights gained from the traditional perspectives on consumer behavior.

Of course, no theoretical approach is without limitations. The CCT perspective has been criticized for being *too* constructivist, as it focuses on interpretation rather than

cause and effect relationships and dissociates itself from managerial relevance (Simonson et al. 2001). CCT however can yield information rich outputs on cultural values, norms and practices and can capture how these are built in consumers' identities (Arnould and Thompson 2005). CCT also shows how consumption is influenced by social actors such as policy makers and pressure groups (Moisander and Pesonen 2002) and thus provides a useful platform of knowledge to PSS proponents.

CCT perspective is not limited to any specific methodological approach (e.g. qualitative or quantitative) rather it embraces methodological pluralism (Arnould and Thompson 2005). Following this approach we have concentrated on the socio-cultural aspects of consumers' responsiveness to the two different transport solutions: Harley Davidson and ZipCar consumption.

Given the difficulty in identifying suitable theory rich cases (George and Bennett 2005), we drew upon secondary data from two published ethnographies, conducted respectively by Schouten and McAlexander (1995) and Bardhi and Eckhardt (2012). Based on these, we constructed two historical case studies which we deemed "crucial" and "extreme" (George and Bennett 2005; Hoepfl, 1997) and had considerable variation between them (Hoepfl 1997). Although both concerned with personal mobility, these contrasting cases offered opportunities for cross-comparison to identify common and differentiating patterns (Patton 1990).

Both ethnographies are linked to means of transport and travel practices. Schouten and McAlexander (1995) conducted participant observation, i.e. the researchers were embedded amongst the motorcyclists they studied. Bardhi and

Eckhardt (2012) conducted non-participant observation in their study. They rode in Zipcars with members and conducted ethnographic interviews. The studies were selected because mobility is one of the most critical consumption domains from a sustainability perspective (Tukker et al. 2010).

Means of transport also formed the focus of research because such products have significant symbolic value, e.g. ownership of a car, together with convenience, communicates independence and in the cases of several brands of car, even status. While not without challenges, Zipcar and indeed, other car clubs are examples of relatively successful PSS. In contrast, the Harley Davidson case study by Schouten and McAlexander (1995) provides insights on instances where ownership is an explicit condition for affiliation to a socially structured, hierarchically ordered brand community. In addition, this case shows when an artifact (in this case a vehicle) is appropriated through customization. In no other cases of mobility brands consumers identify as closely with their brand community as in the Harley Davidson case (Schulz 2006).

In summary, the two case studies consider on one hand consumption of a use orientated PSS and thus consumption without ownership and on the other consumption of Harley Davidson among a brand community in which ownership really matters. We draw on CCT to develop a theoretical lens which reveals the similarities and differences between these, and key insights for PSS and industrial ecology proponents.

Consistent with the canon of case study research, data were collected from multiple sources via multiple methods (Eisenhardt 1989; Yin 1981; Yin 1994). A template approach was used to code and cluster (Miles and Huberman 1994) the two

ethnographic studies and identify relevant aspects that facilitate comparison, such as relationship with the brand and sense of belonging to social groups. We integrated these data with additional secondary data on contexts of mobility solutions. Template categories used as criteria for comparison of the two case studies were determined *a priori*, based on a review of CCT literature including Schouten and McAlexander (1995), Bardhi and Eckhardt (2012); Belk (1988; 2007; 2014b; 2014a) and others and preliminary analysis of the two case studies. These criteria were selected because they describe the characteristics of consumption of mobility solutions without ownership (Bardhi and Eckhardt, 2012) and of consumption of mobility where ownership seems to be a key feature (Schouten and McAlexander, 1995). The twelve dimensions that form the basis of the template are *Brand Identification, Sense of Belonging to Social Groups, Extension of Self, Iconic Status of Product and Brand, Personalization Practices, Distinctive User Practices, Temporality of Use, Trust in Other Users, Opportunistic Behavior, Potential “stigma” of Behavior, Value Co-creation and Customer retention / Brand loyalty.*

<Heading Level 1> Findings

Our analysis explored qualitative data such as values, symbols and reported behavior which could be associated with consumers' needs to express their self-identity and social affiliation. We established how these aspects would shape consumption and we categorized them according to the twelve dimensions detailed above. The resultant analysis is summarized and presented in Table 1.

Table 1 – Comparison of case studies

Variable	Owned, private means of transport (Harley Davidson)	Hourly rented - or shared - means of transport (Zip Car)
<i>Brand identification</i>	Yes – users identify with brand values, including those generated by them. Ideals of freedom and individualism and individualistic “anti-establishment”.	No - users scarcely involved with brand. Suppliers often underplay brand. Users however associate the rental behaviour with pro-environmental values
<i>Sense of “belonging” to social groups – brand community</i>	Yes – product is a mechanism of socialization; users willing to conform to “peer” behaviour and ideals.	No – users resist attempt by company to form a brand community.
<i>Extension of self</i>	Yes – riders see their vehicle as a means of self-expression; Users associate the product with additional external symbols, e.g. Uniform, attire.	No – in fact users prefer anonymity.
<i>Iconic character of product and brand</i>	Yes – product associated with specific lore as a result of special characteristics and portrait in media.	No – brand associated with a range of “ordinary” vehicles.
<i>Personalization practices</i>	Yes – a feature of the brand, motorcyclists modify vehicle design and decorations.	No – users are not allowed to make changes to products.
<i>Distinctive user practices</i>	Yes, self-imposed - riding position and riding techniques specific to HD riders; cleaning and maintenance of vehicle.	Not of own initiative - only possible with company governance, a “stick and carrot” approach, and limited to vehicle cleaning and refuelling.
<i>Temporality of use</i>	No – Harley Davidson motorcyclists see their consumption as a life style.	Yes – users say that they use the service until they can buy a car. “Distress behaviour”.
<i>Trust in other users</i>	Yes, although in some cases there is “chapter” rivalry. Chapters have a hierarchical structure.	No –low level of trust in fellow users, alienation and fear of contagion.

<i>Opportunistic behaviour</i>	Not stated.	Yes – try to take advantage by neglecting care of vehicle.
<i>Potential “stigma of behaviour”</i>	Yes – due to somewhat “outlaw” image – however this can be part of the attraction of the brand.	Yes – as perceived as “distressed” purchaser.
<i>Value co-creation</i>	Both tangible and intangible. Tangible in the form of personalization of product; intangible in the form of the “lore” of the communities of practice associated with the brand.	Mainly tangible, in the form of product cleanliness and timely delivery, but induced by the supplier with “stick and carrot” governance.
<i>Customer retention / brand loyalty</i>	Yes- users tend to be loyal to the brand.	No- consumers see themselves as “temporal users”.

Of course these categories attempt to simplify phenomena which are far more complex, interdependent and difficult to separate. For example, the concept of brand community includes notions of identification with a brand, sense of belonging to that community and extension to self through values. It is therefore essential to illustrate how these variables integrate and work together. The following sections systematically explicate the comparative analysis in narrative form.

<heading level 1> Case Study 1: Harley Davidson riders and culture

Harley Davidson owners feel accepted by “chapters” of bikers when they **own** a Harley Davidson motorbike (Schouten and McAlexander 1995). “Proof” of ownership is a necessary condition to be accepted: researchers embedded in a HOG (*Harley Owners Group*) chapter to study bikers using ethnography found they were not accepted by members as their motorbikes were on loan rather than owned (Ibid.).

“The transition from part-time participant observation to full-time ethnography required the acquisition of our own Harley-Davidson motorcycles. As non-owners we were able to conduct episodic participant observation (...). We also were

unhindered in conducting prearranged depth interviews. What was missing methodologically, however, was an empathic sense of a biker's identity, psyche, and social interactions in the context of everyday life. To fill this gap we each bought Harleys and made them our primary means of transportation."

(Schouten and McAlexander 1995,46)

Here ownership becomes almost a fetish, "I own a Harley, not just the shirt!" (Schouten and McAlexander 1995,50); there are "Two kinds of people in the World: those who own Harleys and those who wish they did" (Ibid.). Brand identification is therefore conditional to ownership of the vehicle.

This need for belonging is formalized by enlisting in owners clubs such as the HOG. This phenomenon is what consumer researchers call *brand communities*. A brand community is a "specialized, non-geographically bound community, based on a structured set of social relationships among admirers of a brand" (Muniz and O'Guinn 2001,412). A brand is a "*distinguishing name and/or symbol (such as logo, trademark, or pack design) intended to identify the products and services of either one seller or a group of sellers, and to differentiate those products or services from those of competitors*" (Aaker 1991,7). Firms devise strategies to develop brand communities. A brand is the focal "system" of symbols in which consumers recognize themselves; they use it as a reference point for their values and practices. It is also a critical tool to assist customer retention through brand loyalty (Aaker 1991; Gerpott et al. 2001), therefore a key success factor to establish a stable, committed user base. For example, brand communities gather around both *Alfa Romeo* (Cova, 2012) and *Hummer* (Schulz, 2006) manufacturers of high performance cars and Sport Utility Vehicles. Alfa Romeo has

even experimented with web site forums and social gatherings where “Alfisti”, owners of Alfa Romeo cars, can share car driving and maintenance practices (Cova 2012).

There are groups of consumers which recognize themselves with the values embodied by a particular brand, they share rituals and traditions and are therefore committed to that product and brand (Schouten and McAlexander 1995; Luedicke 2006). For example in the case of Harley Davidson Riders, this brand community coincides with a subculture which shares values such as freedom, individualism and “machismo”. It follows that it is possible to conceive a profile of the types of individual who would identify themselves with the HD brand community.

Buying into a Harley Davidson motorcycle means to buy in the HOG values – the possession of the product is a mechanism of socialization (Belk and Llamas 2012; Schouten and McAlexander 1995). As in Belk’s (1988) and Barone’s et al. (1999) claim on products being a consumer self-extension, ownership of Harley Davidson motorcycles is what defines these consumers. For other products, actual ownership may not be a prerequisite for being accepted as part of a brand community, which has implications for fostering PSS brand communities.

<heading level 1> Riders’ daily practices and personalization

Harley Davidson riders adopt a number of practices in their daily use of their machines. Harley motorcycles are customized by their owners (Schouten and McAlexander 1995), who transform them into “choppers”, with modified forks and pushed back seats. This tradition of customization has become a feature of the brand (Ibid.). Customization of products is one of the behaviors which signifies a consumer’s

appropriation (Warde 2005) and ownership of a product (Belk 1988). Customization is also referred as personalization by some design literature (Mugge et al. 2009), personalization being "a process that defines or changes the appearance or functionality of a product to increase its personal relevance to an individual" (Mugge et al. 2009,468). Personalization is considered important by designers because it improves the user's sense of ownership through allocation of time, energy and attention to the product (Mugge et al. 2009).

Harley Davidson users also follow rituals such as regular maintenance of the machines. They decorate their motorbikes with various emblems, and don outfits that are in line with their tough biker image: black leather "uniform", with military looking helmets, shiny belt buckles and signage on their attire which states their belonging to a specific chapter. Even the riding style of a Harley rider differs from that used by other bike riders: their torso is typically laid backwards, with their arms held high by the "chopper" style handlebars. All these practices communicate a complex value system linked to the lore of this subculture. The HOG values include ideals of independence, freedom, individualism and control through personalization of the products.

Consumers of this brand co-create value in their daily practices, by mediating values into their lives. This product has become iconic through fiction and movies: one needs only review the movie "Easy Rider", which sets the stand for a subculture which was certainly individualistic to the point of rebellion. With such a culture with "anti-establishment" connotations, it would be hard to imagine how Harley Davidson riders could trust a provider supplying a PSS where the supplier takes responsibilities for that product. The individualism and independence, together with the will to conform to the

consumer's peers, makes of ownership "the way" of consuming. Leasing or renting would signify the "surrender" of this independence.

Harley Davidson riders represent an interesting example of a consumer-product ownership identity fusion which raises implications for PSS proponents. How could PSS reproduce this sense of freedom? How could PSS replace the pleasure of tinkering with the tangible product? These are issues that affect consumers' acceptance of PSS. The proposition of a use orientated PSS to types of consumers who look at their brand as a vehicle of self-expression would be problematic. Such consumers might reject a consumption model based on access. Such a proposition would need to be thoroughly researched for viability and possible design and management solutions.

<heading level 1> Case study 2: Zip Car

In contrast to the Harley Davidson case study, Zip Car finds that members resist its attempts to involve them with the brand. This has implications for users' retention as car clubs have high rates of members' defection (Le Vine et al. 2009).

Zip Car is the world's largest company engaging in the car sharing market. A car club is an organization which provides its members with access to a fleet of shared cars (Le Vine et al. 2009; Shahan and Cohen 2007) periodically, normally for short, local trips (Bardhi and Eckhardt, 2012). Zip Car had a revenue of \$241.6M in 2011 (Bardhi and Eckhardt 2012) and annual growth rates of 100%. The company has developed rapidly in the past five years, including purchasing in 2011 the UK company *Streetcar* and, in 2012, Barcelona's *Avancar*. However Zip Car itself was then acquired by *AVIS* car rentals (Carplus). Zip Car had more than 650,000 members in 2011 and more than

8,900 cars in urban areas and college campuses in the USA, Canada and the United Kingdom (Bardhi and Eckhardt 2012).

Car sharing companies represent a good example of PSS as they integrate several tangible and intangible service components. For example, they feature the use of a smart card which functions as an electronic key and allows users to gain access to vehicles. An on line interface enables the booking of cars in advance by computer or phone (Bardhi and Eckhardt 2012; Catulli 2012). The smart card can be used to refuel the car, and special parking spaces are allocated to these vehicles. Zip Car has around 30 car models, but offers incentives to consumers who rent “green cars” such as the Toyota Prius (Bardhi and Eckhardt 2012).

Customers are relied on to run the service efficiently, for example by returning cars on time, cleaning them after use, reporting damages, and refraining from smoking and transporting pets in the cars. Zip Car has positioned itself as a green brand by promoting car sharing as a sustainable form of transport, and tries to involve consumers in its own brand community by sending monthly newsletters, organizing events and gatherings in cities and running other marketing activities (Bardhi and Eckhardt 2012).

As a product, cars are full of symbolism. They represent a consumer’s identity and project images of values consumers identify themselves with including, for example masculinity and independence (Schulz, 2006; Bardhi and Eckhardt, 2012). Consumers form strong relationships with their cars and become possessive of them (Catulli 2012). Often brand communities form around this product (Bardhi and Eckhardt 2012; Schulz

2006; Cova 2012). Considering all this, what results can be expected of Zip Car's attempts to bind consumers to their brands?

Users of Zip Car services have been found to resist attempts by the company to form a brand community around that PSS (Bardhi and Eckhardt 2012). Consumers investigated in the USA context see renting as a temporary fix until when they can afford to buy a car; further, they do not want to be identified as Zip Car users; and they do not feel involved with the brand. In contrast with users of owned vehicles, consumers have no right to customize products which they only access for use. Even more concerning, users expressed aspects are fears of contagion from sharing the same product with other users (Bardhi and Eckhardt 2012; Belk and Llamas 2012), alienation from other users connected with their lack of attention when returning the rented vehicle, as well as opportunistic behavior and self-interest (Bardhi and Eckhardt 2012). Thus it appears in this case that there is little sense of "belonging". Zip Car consumption generally makes consumers feel "cheap", as they are mainly interested in financial savings (Catulli 2012). This is to be expected, as Bardhi and Eckhardt (2012)'s data suggest that a proportion of users are "distressed purchasers": they use the service because they cannot afford to buy a car. Such consumers therefore have little interest in being part of a PSS brand community.

Consumers of the ZipCar brand co-create value, for example they ensure that the car they booked is delivered on time to the next users and that it is in a reasonable condition of cleanliness. However, such value co-creation is "coerced" as the service is characterized by "big brother" style governance mechanisms, where consumers are fined if they fail to return the car on time and in a reasonable condition (Bardhi and

Eckhardt 2012). This tactic would probably not work on the type of consumers who ride Harley Davidson motorcycles and we suggest that this presents a further barrier to developing a brand community.

Given Zip Car's failure to get their users involved in a brand community, we argue that providers of PSS could find it problematic to retain customers and use a brand to generate loyalty to their proposition, particularly for consumers who see brands as a mean of self-expression. This could have implications for the provider's competitive strategies against competitive (non PSS) solutions.

<heading level 1> Discussion and Conclusions

"You are what you can access" enthuses Belk (2014b,:1595), paraphrasing his earlier claims about ownership (Belk 1988) and suggesting that we may be entering the "post-ownership economy" (Belk 2014b,1599). Our exploration of how consumers' needs to express their self-identity and social affiliation through consumption shape the large scale implementation of PSS paints a more complex picture.

Brand identification is essential for competitive provision. Brand loyalty can ensure customer retention and consequently a solid customer base. Comparison between the two cases on this variable as shown in table 1 suggests that, unlike in the case of Harley Davidson, users of a mobility PSS would not identify with the supplier brand. This could mean low business stability, relying as it would on a "churn" of temporary users as indicated by Le Vine et al. (2009). This is evidenced by the comparison between the two cases on the temporality dimension, perhaps with peaks in moments of financial crisis. What is even more problematic is the suggestion that such

a PSS would not satisfy the needs of consumers for self-identity and social affiliation, at least for products that produce an emotional attachment such as in the HD case. Consumers of the “hourly rented” means of transport for example would neither be able to personalize the physical product nor devise and adopt distinctive user practices, activities which help them appropriate and appreciate the product (cf. Warde 2005). The temporary nature of a PSS brand community, and the resistance to enlist in one, could make the satisfaction of needs for social affiliation difficult. The identification of consumers with their own “special” product, and the affiliation with a stable community of similar consumers would make them feel part of a “tribe”. Unless an equivalent mobility provision designed as a PSS could assure stability in the membership of this “tribe”, consumers might find it difficult to trust their peers, and would be affected by fear of contagion and negative reciprocity. These negative feelings would have an impact on the continued use of the provision. We have seen that in the case of Harley Davidson motorcycles, “proof of ownership” makes users feel like “full paid members” of an *exclusive* fraternity. In the case of the PSS provision on the other hand the use was affected by a stigma effect, where users seem afraid of being seen as unable to provide for, and have control of their own vehicle. Finally, co-production of value through meanings and symbols created by media and by consumers themselves, through distinctive practices, extending to ways of using the product, personalizing and taking care of it, the “pleasure of tinkering” with it, have a role in augmenting the hedonic value of the provision. A PSS provision would need to invite users to co-create value in a similar way without any need of coercion – which could in fact destroy value. Together with consumers’ concerns we mentioned in the introduction, these findings highlight

possible challenges PSS could face when confronting consumer culture. This challenges the notion of post-ownership economy prospected by Belk (2014)b.

Our findings have implications for the diffusion of PSS and for Industrial Ecology. Innovative PSS opportunities which aim to improve resource productivity and promote circular resource flows in the household sector desired by Haas et al. (2015) and Di Donato et al. (2015) are likely to encounter challenges, as already anticipated by Vezzoli et al. (2015). The viability of PSS needs to be assessed by investigating consumers' needs by, among other methods, in depth ethnographic techniques.

The assumption in much PSS literature that functional value is all consumers expect also requires further investigation as it is too limited. If PSS propositions do not satisfy consumers' requirements for hedonic, symbolic and semiotic value, then these provisions will not be able to compete in the market with traditional provisions based on ownership. PSS designers therefore need to begin from an understanding of consumers' values which includes these multiple levels. The authors propose CCT as a theoretical perspective that PSS proponents can build on in order to identify needs beyond the functional sphere and consider ways to design PSS provisions that satisfy these.

PSS designers also need to investigate specific groups of consumers which might be sensitive to values embodied by some of the benefits of PSS. Social issue pressure group activities affect consumer culture and contribute to the creation of subcultures which are (more or less) receptive to sustainability values (Moisander and Pesonen 2002). These include "Voluntary Simplifiers", individuals who "for whatever

reason decide to live with less” (Craig-Lees and Hill 2002) and “Downshifters”, economically well off people who give up some consumer products (Etzioni 1998). Voluntary Simplifiers choose to keep consumption of products to a minimum and adopt an environmentally friendly behavior (Craig-Lees and Hill 2002; Shama 1985). PSS might need to be supported by specific brand strategies which aim to embody practices, rituals and values these groups of consumers identify with. These strategies should alter the symbolic meanings of consumption by making sustainability part of the values invested in PSS (Tukker et al. 2010). This could offer opportunities to build brand communities around these values. In the Netherlands for example, there are PSS consisting of rental bikes (OV-fiets) and rental cars (Green Wheels) which have created users groups that identify with these brands. It should be observed however that these, in addition to being from a different cultural context than the ones studied here, are not large scale when compared to those explored in this paper. For PSS to be successful it is necessary for values such as those identified by Piscicelli et al. (2015) and (Catulli et al. 2013) to become relevant to a wider proportion of consumers. This is an important issue for PSS and IE, as appeal may be limited to only small consumer groups and might make it difficult for PSS to diffuse outside of such small scale niches (Ceschin 2013).

The need to identify consumer segments which might be more receptive to PSS, and that could therefore facilitate its diffusion, means that proponents of PSS should develop a consumer focus, a “sufficient understanding of one’s target buyers to be able to create superior value for them continuously” (Narver and Slater 1990). Whilst some consumer segments might be averse to PSS in principle, perhaps PSS can be

promoted by supporting the creation of consumer communities that encourage people to share brand values associated with sustainable consumption. This could create a sense of identity and belonging comparable to that which aggregates Harley Davidson riders.

This paper has looked at consumers' acceptance of PSS from the perspective of Consumer Culture Theory, with the purpose of exploring how consumers' needs to construct their self-identity by consuming specific products and brands affect its large scale implementation. Our discussion of two contrasting case studies suggests that consumers have a natural propensity to own those items to which they feel an emotional attachment, which they feel helps to define them and which express affiliation to aspirational groups. Zip Car's difficulty in getting consumers involved in a brand community suggests a need for in depth research of the emotional and social needs and identities of target consumers of resource efficient PSS.

<heading level 1> Directions for Future Research

We suggest that the answer to Scholl (2008)'s question of what happens to products' symbolic meanings when transferring from ownership to access, is that they could be lost for those products which consumers use as extensions of their identities and as symbols of affiliation. Research needs to focus on ways in which consumers can embed PSS in their identity projects and suggestions for design of relevant value dimensions in PSS.

Further research is needed into diverse consumer contexts to ascertain how they relate to PSS; for example, this could involve extending ethnographic research to PSS

solutions involving different categories of products and brands. An issue that we feel should be investigated is how consumers would react to tangible products which have been expressly designed for, and are only available as part of, a PSS. For example, a research group in the UK is in the process of testing a car exclusively designed to form the basis of a PSS (Riversimple.com). Such a product could be a recognizable symbol of a service driven provision modeled on PSS associated with pro-environmental values, which could therefore become relevant to consumer culture or at least some sub-cultures, and embody meanings and practices for such market segments. The resulting tangible product could then embody meanings and practices for specific market segments. Such segments, e.g. voluntary simplifiers and downshiffters, which seem more receptive to the environmental and social values that a PSS solution might embody, warrant research.

Whilst most consumers might simply not be interested in PSS, these special market niches could serve as a starting point for new PSS propositions. Designers could consider these special segments as opportunities which present a potential for development of brand communities, and therefore committed loyal users of a PSS. Perhaps a PSS designed around a tangible product with distinctive features could appeal to these specific sub-cultures and embody pro-environmental values.

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ⁱ: A not-for-profit organization which enables consumers to share their products